

Annual Report
of the
SECRETARY OF THE AIR FORCE

July 1, 1962, to June 30, 1963

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1. Introduction

In fiscal year 1963, the U.S. Air Force passed a number of significant milestones marking either the end of long-standing programs or the beginning of new programs to improve its over-all capabilities. The combat commands, particularly, substantially increased their ability to carry out their missions. Outstanding recorded events in the strategic mission field include: Completion of the ATLAS-TITAN ICBM construction program; bringing the first MINUTE-MAN wing to operational status; expansion of the airborne command post system; and considerable improvement of command and control facilities.

In the tactical area, there has been an increase since 1961 in the number of tactical air squadrons by one third, a 60 percent increase in tactical nuclear forces deployed in Western Europe, and a 60 percent increase in airlift capability—all illustrating an unremitting effort to maintain the highest state of readiness. These events and other important developments are spelled out in detail in the body of this report.

Beyond all other achievements, the one event which dominated fiscal year 1963 for the Air Force, for the United States, and even for the world, was the Cuban crisis of October 1962.

On October 22, 1962, President John F. Kennedy went before the people of the United States to inform them that stationing of Soviet missiles in Cuba constituted an "explicit threat to the peace and security of all the Americas. . . ." Air Force photoreconnaissance missions over Cuba in the week preceding the President's announcement had disclosed the rapid buildup of offensive weapons just 90 miles from American soil and provided the basis for his prompt and positive reaction to the challenge.

Aerial reconnaissance played a key role throughout the crisis by keeping policymakers informed of day-to-day events in Cuba and its surrounding waters. Behind the President's unswerving insistence that the Soviet offensive missile bases in Cuba be dismantled was the certain knowledge that the United States could effectively respond to any rash or drastic action by Cuba or by the Soviet Union.

That certain knowledge by policy-makers on both sides of the clear superiority of the U.S. strategic capability was a satisfying payoff of the confidence initially expressed 15 years before by the foresighted

leadership of a newly co-equal and coordinate Department of the Air Force. Mindful of Winston Churchill's remark in 1949 that Western Europe would have been communized were it not for the atomic bomb in the hands of the United States, Air Force leaders maintained an overwhelming striking power in the Strategic Air Command.

That judgment, which was to provide the essential deterrent to major Communist aggression during the 1950's, was dramatically vindicated in the Cuban crisis. President Kennedy could act with confidence that we had established a quarantine without fear of a mutual escalation where "even the fruits of victory would leave ashes in our mouth."

The strategic potentials which the United States began to develop did not deter our principal adversaries from a series of less than total aggressions. To meet that kind of danger, the United States in 1961 had established the U.S. Strike Command. STRICOM was organized as a mobile, hard hitting, and flexible Army-Air Force team. It was accorded co-equal status with other unified and specified commands. Within 2 years, improved tactical operations had become standard operating procedure. Beyond that, the Joint Chiefs of Staff had acquired a field laboratory for developing and testing new joint concepts for operations.

Today, with high mobility and readiness, STRICOM can almost instantly send U.S. forces of any size to prevent wars, render assistance, and extinguish brushfire hostilities without weakening U.S. positions in other areas.

The Strategic and Tactical Air Commands could not have accomplished their missions without dependable airlift capability. Backbone of the airlift force through the end of fiscal 1963 was the C-124, around which every airlift operation since Korea had been built. Shortly after the close of the fiscal year, the C-141 Starlifter, a radical advance in military airlift, was rolled out, portending a major breakthrough in logistic supply. While it is not scheduled to be delivered in substantial numbers until fiscal 1965, the C-141 was expected by 1968 to increase MATS ton-mile airlift capability fourfold. Combined with an electronically operated, ground-handling system, the C-141 promises to cut turnaround time, which is the normally unproductive time on the ground.

To meet the interim general purpose force requirement for airlift, the Air Force ordered additional C-130's, while awaiting production of the C-141.

Fiscal year 1963 was a year of payoff in another critical area. In October 1962, the last production B-52's and B-58's came off the assembly lines, and by the end of the fiscal year, intercontinental ballistic missiles were coming in at the rate of 1 a day. The orderly transition of the strategic forces was well under way, and missiles

began to share with the manned bomber forces the principal reliance for U.S. strategic aerospace power.

The Air Force simultaneously engaged in providing centralized planning and supervision of a multibillion dollar research, development, testing, and production program. From this effort emerged not only the principal portion of the strategic missile force, but also the technological base to support a considerable part of the national space effort. Many of our space accomplishments—those of the Air Force as well as those of the National Aeronautics and Space Administration—could not have been achieved so quickly and successfully without the prior experience gained during the Air Force missile development program.

Dual-purpose rocket and related research culminated in mid-May 1963 when Maj. Leroy Gordon Cooper, Jr., USAF, successfully concluded NASA's Project MERCURY program by circling the globe 22 times in 34 hours and 20 minutes, after being launched into orbit by the Air Force ATLAS booster. The follow-on GEMINI program under NASA auspices was to be built around the Air Force-furnished launch vehicle, an adaptation of the proven TITAN II.

If the Air Force history during fiscal year 1963 embraced a central theme, it was one of diversification of effort. In the 1950's, effective defense against total war was the most pressing problem—and certainly the most critical. By 1963, as certain measures had been taken to assure the survivability of our strategic forces, Air Force planning was built around the concept that as long as the United States maintains a credible second-strike capability, any aggression is likely to take the form of a limited test of our determination to resist. Consequently, management of our resources has been based on an increased ability to provide options that can be used to counter aggression below the level of total war.

There has been a corresponding change in research and development objectives. In the budget for fiscal year 1963, the Congress appropriated \$3.6 billion for Air Force research, development, test, and evaluation, representing approximately a 50 percent increase over the previous year. This diversified research funding is essential if the Air Force is to respond flexibly to the historic change in the nature of anticipated conflict to insure our continued effectiveness in the years ahead.

II. *Combat Forces*

The Air Force attained during fiscal year 1963 the highest state of combat readiness in its peacetime history. Its striking power reached a new peak since the Nation first adopted the policy of strategic deterrence. The Cuban crisis of October 1962 afforded an excellent opportunity for airpower to demonstrate its rapid, selective, and flexible response to a situation of extreme gravity and urgency. The manner in which the Air Force marshaled and applied its forces—strategic, tactical, air defense, and airlift—again illustrated the value of airpower in the national military posture.

On October 14, Air Force reconnaissance aircraft obtained the first demonstrable evidence of the presence of Russian offensive missiles in Cuba. Four days earlier, in view of the generally tense situation, the Chief of Staff had directed the prepositioning of supplies in the southeastern United States. Following the discovery of the missiles, Air Force commands worldwide progressed through various stages of alert and deployment, including intensification of strategic airborne alert, combat dispersal, movement of tactical air and air defense units to Florida, and airlift of Army units. As the crisis progressed to its climax during the week of October 21–27, the Strategic Air Command (SAC) and the Tactical Air Command (TAC) aircraft conducted intensive reconnaissance of Cuba and its surrounding waters, while thousands of aircraft in combat commands stood ready for instant offensive or defensive action. On October 27 the President directed the mobilization of part of the air reserve forces. The following day, tension began to lessen when the Soviet Union agreed to dismantle the sites and remove the missiles from Cuba, but extensive reconnaissance operations and diminishing stages of alert continued until near the end of November.

In the course of the year the number of Air Force combat wings dropped from 97 to 86 (315 squadrons), resuming the long-term reduction begun in 1957 but interrupted because of the Berlin crisis in fiscal year 1962. The decline was distributed between the strategic and tactical air forces, reflecting the phaseout of older strategic medium bomber wings and the return to inactive duty of reserve units called up during the Berlin crisis. Air defense combat wing strength remained essentially stationary. Strategic missile forces increased as manned bomber forces declined, but the latter, of course,

still formed the great bulk of Air Force striking power. The two complemented each other and confronted the enemy with a balanced strategic power that would be extremely difficult to destroy or deny. Under this shelter, other elements of military power were free to exercise their full potential.

The Air Force, like the Department of Defense as a whole, emphasized general purpose forces useful in many contingencies short of general war. These included powerful tactical air forces capable of operating separately or in conjunction with Army forces in geographically limited locations as well as a greatly improved airlift to support the movement of Army units to troubled areas. These improved tactical air forces permit the Nation a choice of options from the lower portion of the combat spectrum, including show-of-force, counterinsurgency, and conventional war.

The Air Force continued to give particular attention to counterinsurgency, developing specially trained and equipped units to apply airpower in insurgency-type struggles. It also cooperated with friendly governments faced with the threat of Communist-inspired and -financed insurgency, as in South Vietnam, by instructing their personnel in the use of airpower. The focal point for these activities is the USAF Special Air Warfare Center at Eglin AFB, Fla., where selected personnel, using propeller-type aircraft, learn to use new tactics and equipment for counterinsurgency operations. The Air Force also programed increased quantities of improved conventional munitions as war readiness material for nonnuclear wars.

The great improvement in airlift, which began last year, directly increased the Nation's capability to conduct or to aid other free nations in limited war and counterinsurgency operations. This was strikingly demonstrated during the crisis following the Chinese breakthrough in northeast India. In answer to India's appeal, MATS C-135's and USAFE C-130's on November 2, 1962, began airlifting almost 1,000 tons of urgently needed automatic weapons, ammunition, and communication equipment from Rhein-Main Air Base at Frankfurt, Germany, to Calcutta, India. The operation was completed within 10 days. USAFE also deployed a 12-plane C-130A squadron for support of Indian operations on the northeast frontier, and this squadron, a part of which remained there, had airlifted 14,000 personnel and 20,000 tons of military supplies by June 30, 1963.

The Air Force continued to improve its facilities for centralized command and control. Through these, it directs the support of USAF combat forces and also supports JCS operational direction of combat forces. The Headquarters, USAF Command and Control System (473L), although still in a status of operational training, gave significant service during the Cuban crisis to the Air Staff, Joint Staff, OSD, and State Department. Although the operational data

slipped, acquisition costs remained below original estimates. Additional programing capabilities were integrated into the system, training of personnel progressed, and construction to house a large-scale computer began at the Air Force Command Post.

Work on the National Emergency Airborne Command Post (NEACP) progressed satisfactorily. The Air Force continued to operate the Bomb Alarm System, with its 99 sensor sites and 9 terminals.

In January 1963 the United Kingdom, Italy, and Turkey announced their decisions to phase out the IRBMs on station in those countries (60 THOR, 30 JUPITER, and 15 JUPITER missiles, respectively). Beginning in 1957, the Air Force had supplied the missiles and trained the handling crews, while U.S. military teams retained custody of the nuclear warheads. These weapons contributed greatly to NATO's early ballistic missile strength, but have been supplanted by more efficient weapons. Some of the THOR missiles will be returned to this country for possible use as boosters for space vehicles.

Strategic Air

The Strategic Air Command stressed modernization of the combat force through its ability to survive attack and to respond quickly with improved striking power. SAC inactivated five bomber wings and declined over-all by three combat wings as retirement of B-47's resumed after the temporary suspension caused by the Berlin crisis. This reduction in aircraft wings was counterbalanced by the addition of two strategic missile wings and improvements to the bomber and tanker fleets.

The production programs for both the B-52 and B-58 were completed in October and November 1962, respectively. The question of a successor aircraft remained unsettled, but research studies on a future manned strategic bomber are exploring all possible alternative systems.

Meanwhile, the Air Force has made every effort to increase the life expectancy and reliability of the 42 B-52 squadrons (630 aircraft) and 6 B-58 squadrons (80 aircraft) that will form the backbone of the strategic striking force through fiscal year 1967. When several unforeseen major structural deficiencies appeared in the B-52, extensive corrective action was required. In September 1962, Project STRAIGHT PIN got under way to rework the G and H series after several aircraft had developed cracks in the wing terminal fittings. Two B-52 accidents in January 1963 were attributed to failure of the vertical fin attaching point. The major bulkhead in the tail structure was replaced and an automatic pilot control system to reduce aerodynamic strains imposed on the tail was incorporated. In Febru-

ary 1963 the Secretary of Defense approved the Hustle Up program to improve B-58 operational reliability.

The electronic countermeasure (ECM) modification programs to enhance the penetration capability of the B-47 and B-52 continued, and modifications to the B-47 force were nearly complete. Production of the AGM-28 HOUND DOG air-to-surface missile ended in March 1963 with delivery of the 722d missile. Twenty-nine B-52 squadrons are equipped with 20 missiles each.

The SAC jet tanker fleet expanded with the delivery of 92 additional KC-135 aircraft, permitting the equipment of 9 of 11 newly activated squadrons. Meanwhile, 10 KC-97 squadrons, supporting the B-47 force, were inactivated or converted. The modification program to improve directional control of the KC-135 was on schedule.

By April 1963 the single manager tanker force for the Air Force under SAC control was supporting all TAC oversea deployments and redeployments entirely with KC-135's. As TAC's KB-50 phase-out began, SAC increased the number of KC-135 sorties to support TAC training in in-flight refueling.

The three major operational strategic missile systems reached maturity during the year. In August 1962 the Air Force completed the ATLAS D Category III test program, with 14 of 15 missiles impacting in the target area. During September the last three TITAN I missile complexes were turned over to SAC, completing the 6-squadron force of 54 missiles on launchers. In December 1962, SAC assumed control of the last of 12 ATLAS F launchers at Plattsburgh AFB, N.Y., completing the 6-squadron ATLAS F program as well as the total 13 squadron ATLAS force of 129 missiles on launchers. Both the TITAN I and ATLAS F are housed in underground silos, physically protected from anything other than a hit or near miss by a large nuclear weapon. They can be raised and fired within the Ballistic Missile Early Warning System (BMEWS) warning time.

The MINUTEMAN and TITAN II programs proceeded on schedule. Within the approved 950 MINUTEMAN program, the first two flights of 10 missiles each became operational under SAC control in November 1962: the first squadron of five flights in February 1963; and the first complete wing, armed with 150 missiles, on July 3, 1963. The MINUTEMAN, a three-stage solid-fueled missile with simplified production, operational, and maintenance features, represents an economic and technical breakthrough. Equipped with a nuclear warhead and having a range in excess of 6,000 miles, the MINUTEMAN can be launched within 35 seconds from buried silos placed at least 3 miles apart.

The first TITAN II squadron became operational in June 1963. The TITAN II is fueled with noncryogenic liquids, storable within the missile. This simplifies maintenance and permits quick reaction.

The TITAN II will carry a reentry vehicle more than twice as large and heavy as earlier missiles, greatly enhancing either striking power or ability to penetrate defenses.

SAC remained on 15-minute ground alert with 50 percent of the bomber force and continued its constant training for airborne alert. It increased the level of both during the Cuban crisis. The average aircrew workweek rose during the year to approximately 74 hours. A study completed in January 1963 found that an increase in the ratio of crews to aircraft from the current 1.8 to 1 to 2 to 1 would reduce the workweek by about 6 hours, but the increase could not be authorized because of the severe impact on other Air Force operations.

SAC withdrew aircraft from six oversea bases during the year. Among them, three Moroccan bases at Ben Guerir, Nouasseur, and Sidi Slimane were scheduled to pass from U.S. control in December 1963 as a result of the agreement reached with the Moroccan Government in 1959. SAC also withdrew from Kindley AFB, Bermuda, and Churchill and Frobisher RCAF stations, Canada, because they were no longer required following the phasedown of the B-47/KC-97 force.

Air Defense

To provide an effective air defense force and associated warning and control systems is a principal Air Force mission. Air defense furnishes the tactical warning for our offensive forces and complements the counterforce effort through identification and engagement of intruding air forces. The Air Force maintains and operates the DEW line and the BMEWS, the SAGE control system, the nuclear weapon alarm system, and the Spacetrack portion of NORAD's Space Detection and Tracking System (SPADATS). It also provides the bulk of NORAD's interceptor aircraft and missiles and approximately 70 percent of the 175,000 NORAD personnel.

Currently and in the immediate future two critical air defense problems confront the Air Force—defense against advanced manned bomber systems and defense against ballistic missiles. The existing air defense system was developed to counter the Soviet long-range bomber force, currently made up of Bison and Bear heavy bombers, together with Badger and a few Blinder bombers. The last aircraft, specifically designed for air defense, entered the inventory in March 1961. Since our interceptor systems are aging, intensive study is being given to their modernization in the years ahead.

Active defense against ballistic missile attack coming from point-on land and sea remained a critical problem. For the future we may also face threats from space.

To increase the survivability of Air Defense Command (ADC) interceptors in the event of an ICBM strike, the Air Force had previously placed one-third of the force on a 15-minute alert, in line with BMEWS detection capabilities. In fiscal year 1963, ADC completed the first phase of a new dispersal program, involving the rotation of aircraft and crews to a number of predesignated points. At the beginning of the Cuban crisis, ADC dispersed 173 interceptors to 17 bases within 3 hours. Dispersal plans will be further elaborated during fiscal year 1964.

The air defense force structure remained essentially unchanged, with 18 wings distributed among ADC, the U.S. Air Forces in Europe (USAFE), the Pacific Air Forces (PACAF), and the Alaskan Air Command (AAC). Modification of the F/TF-102 interceptor to incorporate the infrared search and track system was under way, but the Air Force canceled a partially completed contract to fit it with the AIM-26 FALCON air-to-air missile and later asked for new bids. Proposed improvements to the F-101B/F and F-106A/B, estimated at \$219 million, were undergoing final cost analysis and funding review. In December 1962, BOMARC B (MIM-10B) production ended with the delivery of the final missile to the Royal Canadian Air Force. The complete BOMARC interceptor force consisted of 10 squadrons, 8 sited in the United States and 2 in Canada.

The U.S. air defense problem in fiscal 1963 reflected the changing nature of the threat as the Soviet offensive capability continued its shift in emphasis from aircraft to missiles. At the request of the Secretary of Defense, the Air Force established in January 1963 a special study group to carry out a comprehensive study of continental air defense. The study group report forwarded to the Secretary of Defense on May 15, 1963, provided a basis for major decisions on air defense weapon and control systems. The report considered the reduced air-breathing defense needs for the 1965-75 period and the possible reshaping of the ground environment. Headquarters, USAF, was giving the report a detailed review at the close of the fiscal year.

Some spin-off implementation of the air defense review was immediately apparent. Principally, the Continental Aircraft Control and Warning System (416L) was phased down, since it proved practically impossible to harden this system against nuclear attack. In May 1963, the Air Force began to close down 6 SAGE centers and 17 long-range radars. Realignment of the remainder of the system is expected to be completed by December 1963. The Air Force approved a NORAD recommendation that 28 intermediate warning radar stations of the main DEW line be phased out because of the reduced low altitude threat and improved coverage given by the 40 rotating search radars. This will result in a saving of \$4.4 million annually. The Alaskan Air Command also closed down three manual radar

stations as no longer necessary. In March 1963 the Air Force placed into operation a new airborne automatic detection and communication system known as ALRI (Airborne Long Range Input) which will provide a seaward extension of SAGE. ALRI is installed aboard modified aircraft operating out of a headquarters at Otis AFB in Massachusetts on coastal patrol from 100 to 200 miles out to sea. The first of four geographic aerial stations to be positioned off the Atlantic coast was activated in the vicinity of the Texas Towers, which terminated operations in March 1963. ADC took delivery of 17 automated ALRI aircraft for the early warning and control fleet.

Work continued on schedule on the Back-Up Interceptor Control (BUIC) system. Phase I, the manual system, became completely operational in October 1962. The Air Force let the contract for the first 17 computers required for Phase II (semiautomatic control) early in the fiscal year. The third and final BMEWS station, at Fylingdales, England, was expected to become operational in September 1963.

On July 12, 1962, Generals Curtis E. LeMay and George H. Decker, the Air Force and Army Chiefs of Staff, signed an agreement to unify the air defense of overseas areas. This important agreement was based on the principle that integrated air defense under a single commander is essential to successful theater operations. A combined organization, specific Service responsibilities, and joint concepts of employment were delineated.

Tactical Air

USAF tactical fighter, bomber, missile, reconnaissance, and airlift forces are distributed among TAC, USAFE, PACAF, and MATS and tailored to counter a variety of threats. They offer options of response ranging from employment of diversified conventional munitions to nuclear weapons. TAC forces are rapidly deployable throughout the world, providing flexible and mobile combat forces for the operational air component—the Air Force Strike Command (AFSTRIKE)—of the U.S. Strike Command (USSTRICOM). USAFE and PACAF provide any required tactical air support to the unified commands in Europe and the Pacific.

Within 48 hours after receiving orders in the Cuban crisis TAC moved fighter and reconnaissance aircraft to southeastern U.S. bases and brought them to full alert. During the same period, TAC and MATS airlifted thousands of personnel and thousands of tons of cargo.

Progress was made toward the current objective of a modernized tactical fighter force of 14 F-4C and 7 F-105D wings. TAC completed reequipping one F-105 wing and added a second. PACAF

completed conversion of one wing from the F-100 to the F-105 and began converting another. Delivery of the F-105F, two-place version of the F-105D, began in the fall of 1963. The F-105F is being procured in some quantity to provide all-weather training, while retaining its ability to perform tactical missions. The F-4C procurement program was doubled in size, and conversion of wings will begin during the coming fiscal year. This two-place, twin-jet all-weather plane, is the Air Force version of the Navy Phantom II. Having both high performance and great flexibility, it can operate above 50,000 feet and Mach 2 or at relatively low altitude and speed. The Air Force borrowed 27 Phantom II's from the Navy during the spring and summer of 1963 to train aircrew instructors and maintenance crews. Two others were used for test purposes.

The Air Force increased the quantity and variety of missiles on order for the tactical forces. The AGM-12 BULLPUP was delivered in large quantity. An adaption kit makes it usable with a dummy warhead for training, with a conventional warhead, or with a nuclear warhead. The AGM-45 SHRIKE, AIM-7D SPARROW, and AIM-4D FALCON were also placed on order for fiscal year 1964 procurement. The SHRIKE is an air-to-ground missile procured through the Navy, and the other two are air-to-air missiles.

The MGM-13B MACE augmentation program in USAFE advanced satisfactorily and should be completed during the first quarter of fiscal year 1964. Hard site construction for USAFE's MGM-13C continued to be a major problem, but training launches demonstrated improved reliability and accuracy.

The Air Force increased its counterinsurgency capability in several ways. It introduced new tactics and equipment at the USAF Special Air Warfare Center at Eglin AFB, Fla., and raised both the 1st Combat Applications Group and the 1st Air Commando Group to wing status while adding an additional commando fighter squadron to the force. Other Air Force research went into developing or improving nonnuclear munitions intended for levels of conflict ranging below that of general war. These munitions included incendiaries, air-to-surface missiles, antipersonnel weapons, and aerial mines. One example of improvement was modification of the standard 750-pound bomb to increase fragmentation at low altitudes. The new tactical fighters possess the versatility to deliver a wide range of these weapons with maximum effectiveness under a variety of conditions.

AFSTRIKE, comprising all combat-ready forces of TAC, continued an extensive program of joint training with Army ground forces. In August 1962, USSTRICOM, supported by MATS, carried out SWIFT STRIKE II in the Carolinas. This limited war exercise involved four Army divisions, six tactical fighter squadrons, two tactical reconnaissance squadrons, and necessary airlift. For the first

time the exercise included simulation of unconventional warfare, with participation by 26 specially equipped aircraft. Altogether 70,000 personnel—including 5,000 from the Air Force—and 500 aircraft took part. A second major exercise, COULEE CREST, took place in April and May 1963 in central Washington. Two joint task forces participated in an initial air battle and subsequent tactical maneuvers including airborne assault landings. Besides the TAC fighter and reconnaissance forces, MATS, TAC, and the AFR supplies troop carrier squadrons, and the ADC contributed a force of interceptors. Such exercises resolved many operational and planning problems for USSTRICOM.

Air Transport

Efforts to modernize air transport forces, particularly those of MATS and TAC, through the acquisition of C-135 jet and C-130E turboprop transports brought to MATS 4 new C-135's, completing its fleet of 45. The Air Force also accepted delivery of 80 C-130E's, with 46 going to MATS and 34 to TAC. The improvement in airlift resources was especially valuable to meet concurrent emergencies, such as the Cuban crisis and the airlift of arms to India. Nevertheless, the pyramiding demand for military airlift has resulted in hard-core requirements that cannot be met in the years immediately ahead. For this reason the Air Force has ordered additional C-130E's while awaiting production of the C-141.

Air transport resources were consolidated near the end of the year when the Air Force Logistics Command transferred its two logistic support squadrons to MATS. This action responded to recommendations by Headquarters, USAF, and a subcommittee of the House Committee on Armed Services.

During fiscal year 1963, MATS expenditures for commercial over-sea airlift rose sharply to \$211.9 million. Transporting passengers and cargo cost \$164.1 million, and delivering the mail cost \$47.8 million. In addition, MATS expended \$41.95 million for commercial air service within the continental United States and Alaska in support of QUICKTRANS, LOGAIR, and other domestic transport.

During the year the Air Force decided that turbine-powered aircraft would be used exclusively for Defense movements overseas unless economically or operationally infeasible. Civil carriers, to the maximum extent possible, would be utilized within the normal areas of commercial operation as established by the Civil Aeronautics Board. In fiscal year 1964 the Air Force will procure airlift by exercising options with carriers meeting all terms of their contracts, and new carriers will not be solicited unless these options fail to cover adequately current requirements. It was also decided that all current or potential carriers would be notified that acquisition of turbine-

powered equipment could not be based on military requirements alone. After fiscal 1964, procurement of airlift would depend in part on the success of carriers in expanding their civil business.

The Civil Reserve Air Fleet (CRAF) increased its potential support of MATS operations through the addition of large jet passenger aircraft. The number of member companies rose to 25, of which 15 were also MATS contract carriers. A revised concept of mobilization, contained in fiscal year 1964 contracts, described three separate stages of emergency conditions under which callup would be determined by the Secretary of Defense or the President. This will enable the participating airlines to respond selectively to varying situations along predetermined lines, leave control of carrier operations during emergencies with each company, and eliminate the need for the old CRAF Operations Board. In another innovation, the Department of Commerce, in response to a DOD request, allocated a number of commercial aircraft to form the Domestic CRAF. The action was taken to insure satisfactory operation of LOGAIR and QUICKTRANS airlift systems during periods of national emergency, since the regular CRAF was committed to oversea operations. The Air Force again sponsored a bill authorizing the President to take control of transportation systems during national emergencies short of war.

Continuing the trend that began in 1960, MATS devoted a still higher proportion of its effort to special military airlift requirements, while almost all routine passenger and a large percentage of regular cargo channel traffic went to contract carriers. Military requirements included support of general, limited, and cold war situations, frequently emergency in character: joint training exercises; tests of strategic mobility; tests of war plans; and movement of outsize and hazardous cargo. MATS and USAFE transport forces also responded to numerous humanitarian appeals.

A peak in MATS operations occurred between October 1 and November 20, 1962. Under the impact of the Cuban and Indian crises, MATS flew approximately 99,000 hours and 3,800 missions, about 9,000 hours and 1,000 missions more than normal. During the same period, MATS also supported Operation DEEP FREEZE in the Antarctic, the United Nations in the Congo, and Joint Task Force 8 in the Pacific: participated in joint exercises THREE PAIRS, LONG THRUST, SOUTHERN EXPRESS, and BLUE WATER: met the Army's airborne training requirement: and conducted humanitarian airlifts to Bolivia, Venezuela, and Guam.

In the Cuban crisis, MATS, TAC, and CONAC aircraft moved more than 10,000 personnel and 8,000 tons of cargo to the southeastern United States and Guantanamo. MATS airlifted more than 800 tons of badly needed tactical equipment from various oversea points

and carried out modification of many C-124 aircraft to perform airdrops.

The aerial resupply of DEEP FREEZE involved an airlift from New Zealand to an ice landing strip at McMurdo Sound and airdrops from this point to outlying Antarctic stations and trail parties. Under these hazardous conditions, MATS aircraft in December landed 786 tons of supplies and equipment and airdropped 1,536 tons without incident. For support of the U.N. Congo effort, MATS continued its airlift on a special assignment basis. Since it began in July 1960, the MATS Congo airlift had logged 56,600 flying hours through June 30, 1963.

The largest of the joint training exercises supported by MATS was SWIFT STRIKE II in August 1962. MATS flew 1,531 missions in 27,500 hours, moving 20,000 troops and 15,000 tons of cargo. TAC and CONAC transports flew 1,850 sorties in 3,650 hours during the assault phase, airdropping 836 tons of equipment and 8,085 troops and landing 2,900 tons and 5,339 troops.

MATS and USAFE performed many humanitarian and goodwill missions. In late November 1962, MATS delivered 1,680 tons of relief supplies and transported 800 rescue workers to assist victims of the typhoon in Guam. MATS or USAFE transports performed similar mercy missions for victims of an earthquake in Iran in September 1962, a flood in Morocco in January 1963, an earthquake in Libya in February, and devastating fires in Chile and Panama in June. MATS also airlifted 1,500 tons in support of Project MOUNTAIN TOP, part of Pakistan's economic development program. One MATS C-124 airdropped 1,543 tons of grain in 75 sorties to relieve the plight of starving natives in Tanganyika.

Despite heavy emergency demands, MATS military airlift established an outstanding safety record. The major accident rate dropped to 0.94 per 100,000 flying hours, and for the second consecutive year there were no passenger fatalities.

Specialized Operational Services

The Air Force Communications Service (AFCS), in its second year of operation as a separate command, completed consolidating the communication functions of all major USAF commands except those of ADC and SAC. A Headquarters, USAF, decision postponed indefinitely their transfer. The AFCS took over the Alaska Communication System from the Army in July 1962. The AFCS serves both public and private communication needs in Alaska. To improve the system, the Air Force contracted for two studies, one to examine the rate structure and the second to study organization and management. Meanwhile, the Department of Defense sought congressional authori-

zation in January 1963 to dispose of any part of the system if such action were found to be in the public interest.

The Air Force Communications System (AIRCOM) was modernized with the completion of Quickfix, the short-term high frequency program, and the start on a large-scale conversion to wide-band operation in the very high frequency and ultra high frequency spectrums. These improvements are integrated with the midterm modernization program of the Defense Communications Agency (DCA). AIRCOM now constitutes approximately 75 percent of the Defense Communications System (DCS), and AFCS operates AIRCOM under DCA direction.

In February 1963 the Air Force transferred the fully operational Air Force Data Communications System (AFDATACOM) to the DCA, which redesignated it the Automatic Digital Network (AUTODIN). This data-transmission network consists of five automatic electronic switching centers in the United States with the ability to handle 550 tributary stations and interconnecting trunks. It also extends to oversea areas and includes manual data-relay centers in Europe, the Middle East, and the Pacific.

The Air Weather Service (AWS) continued to provide meteorological support to the Air Force and Army through its worldwide network. Work proceeded on the expansion and modernization program leading to a global semiautomatic observing and forecasting system (433L), but program schedules were extended by 2 years. By June 30, 1963, the Air Force had obligated about \$16 million of the \$80 million that the program is expected to cost.

Continuing its geodetic survey of the globe, the Air Photographic and Charting Service (APCS) mapped for the first time the mouths of the Orinoco and Amazon Rivers and the adjacent jungle areas in South America. APCS also surveyed the principal islands of the southwest Pacific and the Hawaiian archipelago, placing them on a common geodetic basis. The Air Force also evaluated geodetic data obtained from the successful flashing-light experiment on the Project ANNA satellite, launched October 31, 1962.

In its first year of responsibility for directing all air rescue functions at USAF bases, the Air Rescue Service (ARS) reorganized the local rescue system, reducing the number of its base units from 75 to 64. Actual rescue requirements increased, partly dictated on the national space program. The Secretary of Defense approved an increase in ARS strength from 11 squadrons to 12 and authorized 90 fixed-wing aircraft and/or helicopters per squadron instead of 65.

During fiscal year 1963, ARS local base helicopters flew 9,481 missions, saved 1,249 lives, and assisted 7,814 distressed persons. Fixed-wing rescue squadrons flew 17,783 hours on missions, saved 74 lives,

and assisted 230 distressed persons. As inland coordinator under the National Search and Rescue Plan, ARS coordinated 608 missions involving 12,683 sorties. These required 23,564 flying hours and involved 2,986 persons, of whom 1,816 were rescued, 1,170 assisted, 445 found dead, and 146 never located.

III. Manpower

The pressure to man and service the complex weapon systems with fewer but more technically and professionally qualified personnel was maintained in fiscal year 1963. The Air Force was able to meet quantitative requirements through voluntary enlistment, reenlistment, and officer procurement and training programs. However, inadequate pay, lack of opportunities for promotion, and unsatisfactory living standards on many Air Force bases have made it difficult to hold some of the most competent people. This was especially true of junior officers and first-term airmen who were trained at high cost in technical skills.

This problem was Defense-wide and legislation to increase the pay of military personnel, resulting from the OSD (Gorham Committee) study of military compensation, passed the House of Representatives on May 8, 1963, and was before the Senate at the end of June. The substantial increase in military pay, the first since 1958, was expected to help in holding well-trained, experienced men in the military service. Nevertheless, if the principle of "comparability" of Federal salaries with industrial salaries, recommended by President Kennedy in 1962, is to be fully implemented, further legislation is needed.

Total USAF military manpower decreased by about 14,600 during fiscal year 1963—from 584,025 on June 30, 1962, to 569,431 a year later—to include 133,763 officers and 735,668 airmen. About 24,600 of the officers and 185,600 of the airmen were assigned overseas. During the year the number of USAF civilian employees dropped by nearly 10,000—from 306,181 to 296,982. This civilian reduction stemmed from an Air Force decision to absorb in 1963 a large part of the substantial cut programed for fiscal year 1964.

The 25,695 ANG and AFR personnel called up during the Berlin crisis in calendar year 1961 remained on active duty until August 31, 1962. Most of the 14,056 reservists called up for the Cuban crisis in October 1962 were released on November 28, 1962, but nearly 2,000 remained longer to complete administrative tasks or, in some instances, to avoid undue hardships.

assistance of the Air Force Academy, planned to begin in July 1963 an intensive foreign language training program at McGuire AFB, N.J. It will use the academy's method of teaching proficiency in reading and speaking French, Spanish, and German. The course involves 3 off-duty hours of language study a day for 8 weeks. At the conclusion of the training, officers will be tested in language proficiency. Airmen may also enroll in language training courses.

Reserve Forces

During the Cuban crisis of 1962, the air reserve forces proved their effectiveness a second time within 2 years. On the night of October 27, 1962, the President ordered eight troop carrier wings (24 squadrons) and six aerial port squadrons to active duty effective the next morning. Within 24 hours, more than 93 percent of the personnel of these units were present for duty. Troop carrier units reported with 75 percent of their aircraft operational, and they could have been deployed on the first day. Even before the recall, Air Force Reserve (AFR) troop carrier squadrons had been flying supplies and equipment into bases in the southeastern United States. Air National Guard (ANG) heavy transport units flew MATS cargo to all parts of the world, permitting the concentration of MATS aircraft on priority deployment missions.

Beginning on October 23, reservists from about 30 recovery units volunteered to assist Air Force dispersal and Army deployment operations. For 6 weeks, until December 6, they worked 6,000 man-days for SAC, ADC, and Army units. Similarly, 26 ANG and several AFR bases supported dispersal operations of the major combat commands. Their performance drew high praise from the Secretary of the Air Force, the commander in chief of SAC, and from other Air Force and Army commanders who utilized their services.

Personnel losses became a serious problem during fiscal year 1963 as reservists completed their periods of military obligation. Some well-trained airmen dropped out of the program upon completion of enlistments because of employer or family pressures. Drill-pay strength (essentially Ready Reservists in units plus some assignees) dropped 5 percent, from 124,620 at the end of August 1962, when the units returned to inactive status after the Berlin callup, to a low of 118,807 at the end of February 1963. On June 30, 1963, Ready Reserve personnel totaled 242,707—74,325 in the ANG and 168,382 in the AFR—a loss of almost 11,100 since June 1962, about 4½ percent of the total. The Standby Reserve ended the fiscal year with 116,874.

The AFR recovery units held their personnel strength, but budget restrictions kept their share of the drill-pay spaces to 18,000. Despite the strength limitations, recovery units improved their effectiveness.

Shortage of equipment, especially aircraft, plagued the reserve forces for an extended period. After the Berlin crisis, the Air Force retained most of the ANG F-104's and F-84's and the AFR C-124's in its active inventory. In addition to the C-124's retained by the Air Force, the AFR lost 24 C-119's and 6 C-123's to MAP. Aircraft remaining in the ANG and AFR were reapportioned among the units, but many squadrons were left with too few to maintain combat effectiveness or aircrew readiness. The situation will remain serious until the Air Force procures enough new aircraft to allow reassignment of older models to the reserves.

The three ANG F-104 units that served in Europe during the Berlin crisis were converted to other aircraft—two to F-102's and one to C-97's. ANG aeromedical transport squadrons continued their conversion from C-119's to longer range aircraft—seven squadrons to C-121's and two to C-97's.

Throughout fiscal year 1963 the air reserve forces continued to provide extra peacetime support for the Air Force airlift at little extra cost. For example, aircrews of heavy transport, aeromedical transport, and heavy troop carrier units are required to get overwater training and qualify to fly MATS routes. When MATS cargo is carried on these training flights, crew members get realistic training and the extra airlift they furnish MATS is a clear profit.

During the last half of the fiscal year, 16 ANG C-97 squadrons made over 3,500 flights, more than a third of which supported the active Air Force. They airlifted more than 6.3 million pounds of MATS cargo overseas. Five AFR heavy C-124 troop carrier squadrons also carried MATS cargo on oversea flights. The ANG continued to support air defense by holding two aircraft and four crews from each of 25 fighter-interceptor squadrons on runway alert, and its Hawaii-based squadrons performed most of the air defense function there. Also in support of ADC, almost 1,000 ANG personnel flew 188 aircraft in "striker" missions during the last half of the fiscal year to test the air defenses of the Nation.

ANG and AFR units with mobilization assignments to TAC continued to support Air Force and Army requirements. Ten AFR planes per week were assigned to a program known as CONTAC, which moved almost 10,000 passengers and about 9.5 million pounds of cargo for the Air Force. Another 10 aircraft per week provided jump training for Army airborne troops of the U.S. Strike Command. During this fiscal year, AFR troop carries airdropped over 100,000 troops in joint exercises and training maneuvers. Also, ANG tactical fighter units conducted firepower demonstrations for Army training and participated in several exercises.

IX. Logistic Services

Automatic data-processing methods have enabled the Air Force to achieve significant savings and greater efficiency in the logistic support of weapon systems. Mechanized inventory techniques, rapid communications, and airlift transportation have eliminated the need for oversea supply depots; the Air Force now supports its worldwide operations directly from depots in the United States. Although it is expensive to maintain global direct-wire networks and to air transport high-value supplies, the savings realized from reduced inventories more than compensated for the cost of the new methods.

Modern logistic practices have achieved significant savings. Engine overhaul pipeline time between depot and using bases in the United States was reduced from 135 days in 1951 to 75-95 days in fiscal year 1963, between depot and oversea bases from 210 to 79-96 days. The value of the aircraft spares inventory in relation to the value of the aircraft supported dropped from 75 to 35 percent since 1955. Although the number of line items in the inventory more than doubled since 1951, the manning of the Air Force Logistics Command (AFLC) was reduced by approximately 76,000 during these years.

Supply

In its continuing support of the Defense Supply Agency (DSA), the Air Force began in June 1963 to relocate functions from AFLC's depot in Memphis, Tenn., to provide room there for DSA's newly established Defense Industrial Plant Equipment Center (DIPEC). The center will assume Defense-wide responsibilities for the \$1.2 billion inventory of inactive industrial plant equipment and keep it readily available for use on new contracts. The Air Force contributed 110 personnel to DIPEC.

On June 30, 1963, the Air Force discontinued AFLC's General Supplies Division, which since 1955 had handled centrally-procured consumable supplies in common use. The approximately 75,000 items in this category were transferred to DSA or returned to other Air Force central procurement units.

AFLC completed installation of an instantaneous supply requisition system at its nine materiel areas in February 1963, when automatic data-processing equipment was placed at Warner-Robins, Sacramento, and Rome. Formerly designated AFDATACOM (Air Force Data

Communications System), the system was renamed AUTODIN (Automatic Digital Network) and transferred to the Defense Communications Agency. DCA will serve as the over-all system manager with the Air Force acting as the operational management agency.

Under this system, air bases place punched-card requisitions in their transceivers and the information is electrically transmitted to the depot handling the required items. To improve the system and obtain immediate information on the supply status of any item, a standard random-access storage device was still required. In June 1963 the Air Force was evaluating proposals for the manufacture of this equipment.

Headquarters, USAF, approved a program to modernize and standardize a system for supply accounting at 152 designated bases. Previously, processing computers had been installed at 85 bases over the world. In the individual commands, there was considerable variance in the age and capabilities of each unit. Installation of the standardized system was scheduled to begin in the summer of 1964 and be completed in 1966.

Another refinement in supply management made possible a reduction in the number of electronic support bases for ADC radar stations from 13 to 7. These computer-equipped electronic asset control centers exercised centralized control of supply accounting and reporting and also procured local-purchase items. The reorganization eliminated 126,257 line items from on-site supply stocks, at savings of \$3.89 million and 124 manpower spaces.

On September 1, 1962, the Air Force initiated Project MINT (Materiel Identification and New Item Control Techniques) to eliminate from the inventory those stock numbers no longer in use, identify items stocked anywhere in the DOD, and control closely new item inputs. By the end of the fiscal year, MINT had deleted over 350,000 stock numbers from the Air Force supply system. Since the average cost to manage each Air Force line item was about \$100 a year, the reductions meant significant savings.

The Air Force transferred its standardization office from AFLC to Headquarters, USAF, in December 1962 to permit greater control of this activity and closer liaison with the other Services and DSA. Recent standardization actions have eliminated 113,575 items from supply stocks, and numerous specifications and standards have been updated. On an international basis, the United States, Canada, and the United Kingdom now have 186 air standardization agreements, of which 12 were formulated in the past year. There are also more than 165 NATO standardization agreements on air materiel ratified by participating nations.

During fiscal year 1963, the Air Force declared excess to its needs personal property originally costing \$2.4 billion and disposed-of prop-

erty valued at \$2 billion. Because declarations of excess property far exceeded disposals, the excess and surplus property inventory increased from \$745 million to approximately \$1.2 billion. Aircraft made up 40 percent of this inventory. Reclamation of spares and components from excess aircraft amounted to nearly \$100 million, double that of last year. The sale of scrap and waste brought \$8 million; the sale of salvage and usable property \$13.3 million.

The Air Force exceeded by 5 percent its 1963 Defense Cost Reduction Program objective of \$337 million for the use of assets released from supply and equipment inventories and declared excess. Items worth \$353 million were put back into use or released to other agencies.

Maintenance

All aircraft and missiles, with their associated electronic components, were brought under the Air Force's "66-1" maintenance management system during fiscal year 1963. From data submitted by using organizations, the Air Force learned it was overinspecting numerous components of aircraft and other equipment. Some parts inspected every 50 or 100 hours actually needed inspection only every 500 or 1,000 hours. By reducing these examinations, the Air Force could place at the disposal of commanders what, in some cases, actually amounted to a wing or more of aircraft.

Depot maintenance was reserved, generally, for combat and combat support forces. Organizational and field maintenance was to be employed to the fullest capacity before any depot maintenance was authorized. This base self-sufficiency program enabled the Air Force to repair over 80 percent of its reparable breakdowns at base level. Improved field and preventive maintenance reduced the number of J-57 engines overhauled at the depot level by 2,595 and T-56 engines by 793. This drastically reduced downtime and eliminated costly transportation and handling.

The depot maintenance and overhaul budget in fiscal year 1963 was \$736.6 million. Despite a decrease in the number of aircraft supported, the increased requirements for missile maintenance kept the depot workload at about the same level as in past years. More than 100,000 individual aircraft and missile items were maintained. More than 200,000 items of electronics and communications, ranging from simple radios to complex ground navigation and tracking systems, were returned to operational status by the depots. They also maintained such key ground equipment as specialized vehicles, compressors, generators, and the sensitive missile checkout, test, service, and launch equipment.

The Air Force spent \$328.4 million, about 45 percent of the depot maintenance budget, on contractual maintenance. Air Force depots

maintained the weapon systems vital to preserving its capability for instantaneous and successful response to crisis situations. Items that fell outside this category were generally contracted with industry.

Most missile and aircraft modifications, costing \$766.6 million, were beyond in-house capabilities. All but \$36.5 million of this program was contracted with private industry.

The Air Force's success in keeping down maintenance costs as the weapon inventory has become more complex prompted the Secretary of Defense to direct the other Services to adopt Air Force maintenance management practices wherever feasible. During fiscal year 1963 a team of Air Force specialists, at Navy request, helped to install this system for F-4B aircraft squadrons.

Transportation

The Air Force moved men and supplies among domestic bases, depots, and factories and to oversea bases primarily by MATS aircraft, LOGAIR charter aircraft, and regularly scheduled airline flights.

LOGAIR, the domestic charter airlift, had 1963 budget obligations exceeding \$31 million, which included funding to support emergency airlift during the Cuban crisis. The Air Force arranged for DSA to use LOGAIR on a reimbursable basis for fiscal year 1964.

During the Cuban crisis, a Logistics Readiness Center (LRC) was established as an adjunct to the Air Force Command Post to control prepositioning of war materiel. The center was retained after the crisis and charged with keeping current catalogs on the worldwide location of logistic resources. It was scheduled to become completely operational by 1965.

Improved management of transportation and traffic brought about savings through the increased use of economy class air travel, decreased cost of household goods shipments, and more economical use of airlift for cargo movements. The Air Force saved \$11 million, more than \$3 million over the planned goal.

The Air Force experimented with shipping cargo overseas using the "through container service" offered by several steamship companies. In a service test, GSA-supplied items were shipped in commercial containers directly from a GSA warehouse in California to Hawaii. This cut over-all transportation costs by two-thirds from those for similar shipments with government containers (CONEX), primarily because the cost of handling, shipping, and returning empty containers was eliminated. If further study indicates this commercial service is feasible, the Air Force will extend it to other cargo.

Bulk aviation fuel, accounting for about 90 percent of the tonnage shipped into air bases in the United States, cost less to ship during